ANALYSIS OF COOKED FOODS FOR NEW HETEROCYCLIC AROMATIC AMINES. **E.C. Hopmans**, M.G. Knize, J.S. Felton, Biology & Biotechnology Research Program, Lawrence Livermore National Laboratory, P.O. Box 808, L-452, Livermore, CA 94551.

Heterocyclic aromatic amines (HAA), which are formed in meats during cooking, are a potential dietary health hazard as they are potent mutagens in bacterial test systems and carcinogens in laboratory animals. Several novel HAA have been (partially) characterized in cooked foods: dimethylimidazopyridine (DMIP), a trimethylimidazopyridine (TMIP), and dimethylimidazofuropyridine (IFP). A solid-phase-extraction method for the analysis of these compounds was developed. Samples were homogenized in 0.1 M HCl:CH_3OH (7:3), centrifuged and the supernatant applied to a C_{18} cartridge coupled to an SCX cartridge. The C_{18} cartridge trapped contaminants while allowing the HAA to pass to the SCX cartridge where they were retained. The C_{18} cartridge was discarded, while the SCX cartridge was washed sequentially with 0.1 M HCl, CH_3OH, water, and 1 M CH_3COONH_4. HAA were eluted with CH_3OH:NH_4OH (9:1), dried under nitrogen, redissolved in CH_2Cl_2:CH_3OH (19:1), and applied to a PRS cartridge. The PRS cartridge was washed with 0.1 M HCl, 0.1 M HCl:CH_3OH (3:2), and water before elution with CH_3OH:NH_4OH (9:1). The purified extract was analyzed by reversed phase HPLC with UV and fluorescence detection. The presence of DMIP, 1,5,6-TMIP, and IFP was detected in grilled and pan-fried ground beef and confirmed by LC-MS (m/z 162, 176, and 202, respectively). Recoveries of the new HAA for this extraction procedure will be presented. (This work was performed under the auspices of the U.S. DOE by LLNL under contract W-7405-Eng-48 and NIH Grant CA55861)